



**SEQUENCING OPERATIONS:
Considerations For The Operational Planner**

**A Monograph
by**

**Major John D. Johnson
Infantry**



91-17553



**School of Advanced Military Studies
United States Army Command and General Staff College
Fort Leavenworth, Kansas**

Second Term 90-91

Approved for Public Release; Distribution is Unlimited

REPORT DOCUMENTATION PAGE

Form Approved
OMB No 0704-0188
Exp Date Jun 30, 1986

1a. REPORT SECURITY CLASSIFICATION Unclassified			1b. RESTRICTIVE MARKINGS		
2a. SECURITY CLASSIFICATION AUTHORITY			3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release; Distribution is unlimited		
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE					
4. PERFORMING ORGANIZATION REPORT NUMBER(S)			5. MONITORING ORGANIZATION REPORT NUMBER(S)		
6a. NAME OF PERFORMING ORGANIZATION School of Advanced Military Studies		6b. OFFICE SYMBOL (If applicable) ATZL-SWV	7a. NAME OF MONITORING ORGANIZATION		
6c. ADDRESS (City, State, and ZIP Code) Fort Leavenworth, KS 66027-6900 COM (913) 684-3437 AUTOVON 552-3437			7b. ADDRESS (City, State, and ZIP Code)		
8a. NAME OF FUNDING/SPONSORING ORGANIZATION		8b. OFFICE SYMBOL (If applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER		
8c. ADDRESS (City, State, and ZIP Code)			10. SOURCE OF FUNDING NUMBERS		
			PROGRAM ELEMENT NO.	PROJECT NO.	TASK NO.
			WORK UNIT ACCESSION NO.		
11. TITLE (Include Security Classification) Sequencing Operations: Considerations for the Operational Planner (U)					
12. PERSONAL AUTHOR(S) Johnson, John D., Major					
13a. TYPE OF REPORT Monograph		13b. TIME COVERED FROM _____ TO _____		14. DATE OF REPORT (Year, Month, Day) 91-5-20	
				15. PAGE COUNT 60	
16. SUPPLEMENTARY NOTATION					
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)		
FIELD	GROUP	SUB-GROUP	MILITARY PLANNING		
			MILITARY OPERATIONS		
19. ABSTRACT (Continue on reverse if necessary and identify by block number)					
<p>The operational level of war translates strategic goals into guidance for tactical actions. Because war has expanded in terms of time, space, and mass, modern wars cannot be decided in a single battle; instead commanders must concentrate combat power sequentially to destroy the enemy. The principle problem for the operational planner is to determine how to sequence operations to achieve the campaign objective.</p> <p>The study begins with an examination of the theory concerning campaign design. This examination suggests that THE CORRELATION OF ENDS, WAYS, AND MEANS and TEMPO are the two principle considerations for sequencing operations.</p> <p>The study concludes that both joint and Army doctrine are inadequate. The principal problems are that the doctrine fails to define several of the key concepts or describe how these concepts interrelate. Center of gravity, decisive points, and tempo are concepts that the manuals refer to without adequate definitions or examples. More important, the manuals refer to these concepts without explaining how they relate to sequencing operations.</p>					
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT. <input type="checkbox"/> DTIC USERS			21. ABSTRACT SECURITY CLASSIFICATION Unclassified		
22a. NAME OF RESPONSIBLE INDIVIDUAL			22b. TELEPHONE (Include Area Code)		22c. OFFICE SYMBOL

SCHOOL OF ADVANCED MILITARY STUDIES

MONOGRAPH APPROVAL

Major John D. Johnson

Title of Monograph: Sequencing Operations:
Considerations for the
Operational Planner

Approved by:

Dennis W. Tighe
LTC Dennis Tighe MS

Monograph Director

James R. McDonough
COL James R. McDonough MS

Director, School of
Advanced Military
Studies

Philip J. Brookes
Philip J. Brookes, Ph.D.

Director, Graduate
Degree Program

Accepted this 20th day of May 1991

Accession For	
GRAD	<input checked="" type="checkbox"/>
OTIS	<input type="checkbox"/>
Admission	<input type="checkbox"/>
Justification	
By	
Distribution	
Availability	
Approved for	
Dist	Special
A-1	



ABSTRACT

SEQUENCING OPERATIONS: CONSIDERATIONS FOR THE OPERATIONAL PLANNER. by MAJ John D. Johnson, USA, 57 pages.

The operational level of war translates strategic goals into guidance for tactical actions. Because war has expanded in terms of time, space, and mass, modern wars cannot be decided in a single battle; instead commanders must concentrate combat power sequentially to destroy the enemy. The process of sequencing operations has been called "[the] heart of operational art." In essence, the principle problem for the operational planner is to determine how to sequence operations to achieve the campaign objective.

The study begins with an examination of the theory concerning campaign design. This examination suggests that THE CORRELATION OF ENDS, WAYS, AND MEANS and TEMPO are the two principle considerations for sequencing operations. Next, two historical examples are analyzed to determine whether the campaign planners correctly considered THE CORRELATION OF ENDS, WAYS, AND MEANS and TEMPO in their campaign plan. The two examples include OPERATION BARBAROSSA, the 1941 German invasion of the Soviet Union, and OPERATION CHROMITE, MacArthur's 1950 offensive campaign to liberate Korea. The monograph then analyzes Joint Chiefs of Staff (Test) Publication 3-0, Doctrine for Unified and Joint Operations and U. S. Army Field Manual 100-5, Operations to determine whether they include adequate considerations for sequencing operations in a conventional offensive campaign. The tenets of AirLand Battle doctrine--synchronization, agility, initiative, and depth--serve as the criteria for the analysis.

The study concludes that both joint and Army doctrine are inadequate. The principal problems are that the doctrine fails to define several of the key concepts or describe how these concepts interrelate. Center of gravity, decisive points, and tempo are concepts that the manuals refer to without adequate definitions or examples. More important, the manuals refer to these concepts without explaining how they relate to each other or how they relate to sequencing operations.

TABLE OF CONTENTS

	Page
I. Introduction	1
II. Theoretical Perspective	4
III. Historical Perspective	16
Barbarossa	16
Chromite	22
IV. Analysis of Joint Chiefs of Staff (Test) Publication 3-0, <u>Doctrine for</u> <u>Unified and Joint Operations</u>	28
V. Analysis of United States Army Field Manual 100-5, <u>Operations</u>	33
VI. Conclusions and Implications	40

Figures:

1. Correlation of Ends, Ways, and Means	7
---	---

Appendix A - MAPS

BARBAROSSA 1941	42
CHROMITE 1950	43

Endnotes	44
Bibliography	54

I. Introduction

Since the industrial revolution of the mid-1800's,¹ wars have grown to encompass multiple armies operating in more than one theater for long periods of time. This expansion led to the recognition that a level of war exists between the classical levels of strategy and tactics--the operational level.

The operational level of war translates strategic goals into guidance for tactical actions.² The expansion of war in terms of time, space, and mass means that modern wars cannot be decided in a single battle; instead commanders must concentrate combat power sequentially to destroy the enemy.³ James Schneider has called the process of sequencing operations "[the] heart of operational art."⁴ In essence, the principle problem for the operational planner is to determine how to sequence operations to achieve the campaign objective.⁵ This arrangement may include the conduct of simultaneous or sequential operations, or both.

The purposes of this paper are to determine what the planning considerations for sequencing operations should be, and whether current Joint Chiefs of Staff and U. S. Army doctrine convey these considerations. This examination of doctrine is particularly important, since the American military has only recently embraced the concept of the operational level of war; thus, the considerations for sequencing operations may not be widely understood.⁶

Sequencing considerations are what leaders use to make judgements about the sequence of operations in a campaign.⁷ They ensure a common, consistent approach to problem solving while not prescribing set solutions.⁸ These considerations should be based on sound theory and should assist the operational planner to develop successful campaigns.

Historically, successful campaigns have exhibited the characteristics of synchronization, agility, initiative, and depth.⁹ Therefore, because sequencing considerations should instill these characteristics in the campaign plan, I will use these characteristics as criteria for judging the adequacy of the current doctrine on campaign planning.

My methodology for applying these criteria involves three steps. First, I will examine the significant theories concerning campaign design and relate them to the achievement of synchronization, agility, initiative, and depth in a campaign plan. Next, I will review two historical examples to demonstrate how well or poorly past practitioners have applied these considerations. Finally, I will apply the criteria to current campaign planning doctrine to determine whether it adequately addresses considerations for sequencing operations.

The focus of my study is on the capstone joint and army manuals that guide campaign planning: Joint Chiefs of Staff (JCS) (Test) Publication 3-0, Doctrine for Unified and Joint Operations and U. S. Army Field Manual 100-5, Operations. These manuals are the major

sources of Joint Chiefs of Staff and Army guidance and thought on campaign planning.¹⁰ Also, to narrow the scope of this paper, I concentrated on the sequencing considerations for a conventional offensive campaign.

II. Theoretical Perspective

Several theorists have contributed considerations for how and why commanders sequence operations in a campaign. For the purposes of this study, I have grouped these considerations under the headings of CORRELATION OF ENDS, WAYS, AND MEANS and TEMPO.¹¹

CORRELATION OF ENDS-WAYS-MEANS

Any theoretical discussion of campaign design should begin with the objective or aim of the campaign. The objective is the focus for all planning and is fundamental to sequencing operations, since all force expended must contribute toward its achievement.¹² At the operational level, the objective or end is the military strategic goal.¹³

Since war concerns the interaction of two opposing forces, with each attempting to impose his will on the other, we can achieve the military strategic goal by eliminating the enemy's ability to resist. Regardless of whether the objective is terrain or force-oriented, the enemy's military force represents the primary resistance. To eliminate this resistance, planning must orient on the identification and destruction of the enemy's center of gravity.¹⁴ Clausewitz defined center of gravity as the place ". . . where the mass [of the enemy's force] is concentrated most densely."¹⁵ It is the force that can strike the hardest blow and the force which presents the most important target.¹⁶ Finally, the center of gravity is not fixed in time or space and may shift as the campaign unfolds.

The importance of the center of gravity as the primary target of the campaign relates to the sphere of influence it controls. A sphere of influence is the area controlled by the presence of a military force. The greater the power of the force, the greater the sphere of influence. If we defeat that force, it relinquishes its sphere of influence to the victor. A victory against the enemy's center of gravity relinquishes the largest sphere of influence and may achieve the aim of the campaign.¹⁷ Therefore, destruction of the enemy's center of gravity is the path to achieving the campaign objective.

We can attack the enemy's center of gravity either directly or indirectly. If we have overwhelming combat power, the quickest path to victory may be a direct approach. However, we may have insufficient forces to directly attack the enemy, or the enemy may disperse its forces over a large area. In those cases, we must conduct operations at successive points to progressively weaken the enemy's center of gravity until we have sufficient leverage to destroy it.¹⁸ These points are called decisive points.

A decisive point is any area or portion of the force that provides an advantage to the side that controls it.¹⁹ Examples of decisive points include transportation hubs, river crossing sites, mountain passes, and weak points in an enemy formation. Centers of gravity are also decisive points. Seizing or retaining decisive points creates positive effects or conditions in relation to either the friendly or the

enemy center of gravity. By choosing the correct decisive points and obtaining them at the correct time, friendly forces can weaken the enemy and protect themselves. Both Clausewitz and Jomini wrote that proper selection of the correct decisive points was the most important skill a commander should have.²⁰ As we concentrate forces to gain these decisive points, they become objective points, which form the basis for individual operations in a campaign.²¹

Up to this point, we can see that objective points are the means by which the commander creates positive conditions that lead to achieving his objective or end.²² The primary military condition that these objective points must create is the destruction of the enemy's center of gravity. By grouping objective points, the commander can devise different ways to achieve the campaign objective. Jomini called these different ways combinations.

A combination is the series of battlefield actions that are designed to achieve the objective. By extension, the concept of combinations serves as a useful basis for campaign design.²³ After identifying the enemy's center of gravity and the decisive points that contribute to its defeat, the commander selects from different combinations of objective points and the lines of operations that link them to form the basis for his campaign plan. Once selected, the combination of these objective points becomes the sequence of operations in a campaign. This is graphically depicted in Figure 1.

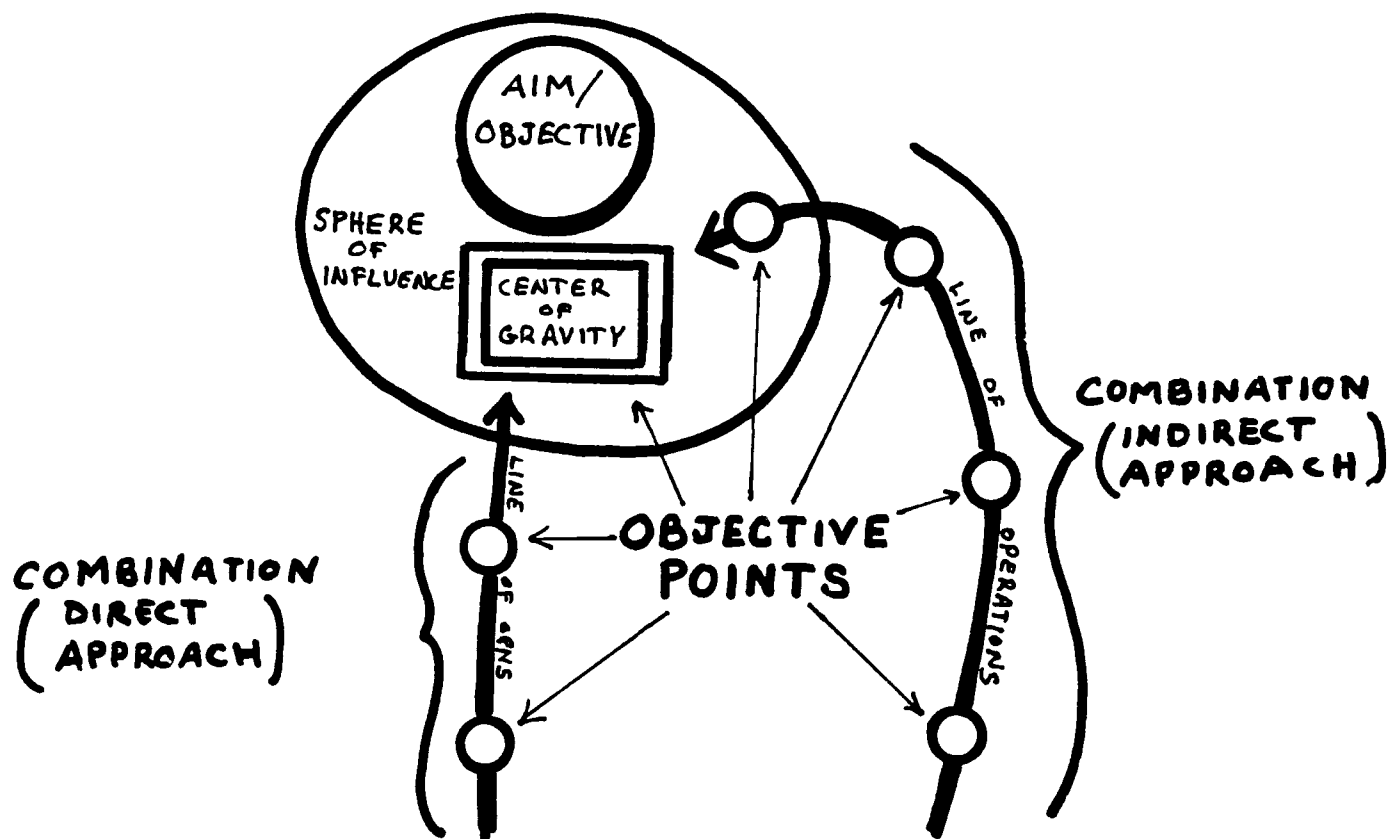


Figure 1. The Correlation of Ends, Ways, and Means

By considering the correlation of ends, ways, and means, the operational planner synchronizes operations in terms of purpose, time, and space. But how does the planner know which sequence of operations will best achieve the campaign objective? For this, the planner needs sequencing considerations that help refine the purpose and timing of individual operations. These considerations are encompassed in the concept of tempo.

TEMPO

The success of campaign plans depends on more than just ensuring that commanders link all actions to achieving the strategic objective. Success also depends on how quickly and economically campaigns achieve their objectives.²⁴ While objective points provide the advantage of position, tempo provides the advantage of speed. Specifically, tempo is the speed

at which friendly forces can move through the objective points to eventually achieve the destruction of the enemy's center of gravity and accomplish the campaign objective. It would appear, then, that tempo will significantly influence how the commander sequences operations.

Tempo is the distance to be covered divided by the amount of time it takes to cover it--"the operational rate of advance."²⁵ Each force operates at a tempo determined by certain interdependent factors. Theorist Richard Simpkin identified these factors as mobility, tactical rate of advance, quality of combat support, quality of combat service support, surprise, and friction.²⁶

Simpkin's discussion on mobility in Race to the Swift suggests that it includes both physical mobility and organizational mobility. I define physical mobility as the capability of an individual vehicle to move along different surfaces, whereas organizational mobility is the capability of the organization to move itself. Organizational mobility is dependent on the physical mobility of the different pieces of equipment in the organization and the number of trips it takes that equipment to move the organization. Organizational mobility may be enhanced by operational or strategic assets, such as rail, sealift, or airlift. Clearly, both physical and organizational mobility affect the tactical rate of advance.

The tactical rate of advance is tempo at the tactical level. An operational force can only move as

fast as the tactical progress of its lead units.²⁷ Therefore, a direct relationship exists between tactical and operational success. Operational success is facilitated by tactical success, and conditions established at the operational level facilitate tactical success.

The commander may be unable to sustain tactical or operational success without considering the quality of his combat support and combat service support. These two areas comprise the main factors that the Soviet military considers when determining the viability of an operation. For the Soviets, viability is ". . . the capability of units . . . to maintain and preserve their combat effectiveness in various circumstances and to continue the implementation of combat tasks in the face of vigorous enemy counter-action [sic]."²⁸ Combat support protects the force, allowing it to continue fighting. Combat service support ensures there are sufficient resources to allow combat forces to continue farther and for a longer period of time through the depth of the theater of operations.

The final positive contributor to tempo is surprise. It magnifies the effects of all the other factors and provides the friendly force an advantage relative to the enemy. It creates a condition that enhances the tactical rate of advance by confusing or slowing enemy responses. Surprise also allows the friendly force to proceed quickly into the depths of the enemy's defenses.²⁹

While surprise multiplies the contributions of the other factors that determine tempo, friction works against the contribution of those factors. Commanders should consider friction in planning the sequence of operations in order to both minimize the effects of friction on friendly forces and aggravate its effects on the enemy. The primary causes of friction appear to be terrain, weather, light conditions, enemy resistance, and the inefficiency of friendly systems.³⁰

Terrain acts as friction because its natural obstacles resist mobility. It shapes the theater of operations and determines many of the decisive points at places where its resistance to mobility is not as great, such as the intersection of valleys and river crossing sites. It also acts as a source of friction because it offers protection to the enemy.³¹ Weather and light conditions may aggravate the effects of terrain.

Enemy resistance is the greatest source of friction since the enemy will try to counter friendly actions with actions of its own. The enemy further adds to the effect of friction by concealing his true capabilities and intentions, possibly affecting friendly intelligence. The effect of poor intelligence on sequencing decisions may be an overly cautious plan, misidentification of decisive points, or even misidentification of the enemy's center of gravity.

Finally, the inefficiency of friendly systems will threaten tempo and may prevent the force from reaching its objectives. These systems include

communication, command and control, and sustainment. Sustainment problems include insufficient or improper items of supply and inadequate transportation. Equipment failures can vary from faulty communications to unseaworthy ships. Human errors due to fatigue, lack of training, or lack of understanding frequently exacerbate the breakdown of these systems. Left unchecked, the ultimate effect of friction on the force may be culmination.

Culmination results when a force is no longer capable of offensive action without risking defeat.³² For this reason, the planner must anticipate culmination and sequence operations to avoid it. The planner does this by recognizing the factors of friction that contribute to culmination and accounting for them in the plan. At the same time, the sequence of operations should reinforce the forces that work toward the enemy's culmination. To avoid friendly culmination, sequencing may need to allow the force to replenish itself or reorganize for continued operations; however, planners must take care that the enemy cannot take advantage of these pauses.

The factors discussed above interact to set the tempo of operations in the campaign. A perfect tempo would be continuous operations against an opponent who is unable to react. Therefore, the operational planner should consider these factors when determining the sequence of operations.

THE RELATIONSHIP BETWEEN CRITERIA AND CONSIDERATIONS

As discussed in the introduction to this paper, the characteristics of successful campaigns are synchronization, agility, initiative, and depth. In the discussion that follows, I will describe how planners create these attributes by applying the considerations of correlation of ends, ways, and means and tempo.

Synchronization

It appears that correlation of ends, ways, and means is a primary consideration for synchronizing the sequence of operations in a campaign. The commander synchronizes his campaign in terms of purpose by linking the ends at each level of war to the attainment of the next higher end. The commander synchronizes the campaign in terms of space and time by choosing objective points and combining them in such a way as to gain control of the space necessary to create the military conditions for success at the time required.³³ Therefore, translating strategic goals into tactical actions by linking centers of gravity, decisive points, and combinations together is the primary consideration for synchronizing the campaign.

Tempo also seems to be a sequencing consideration for achieving synchronization. The factors that determine the tempo of operations are interdependent. The quality of combat service support has a direct effect on mobility, mobility allows friendly forces to exploit the effects of tactical success, and surprise can multiply the effects of tactical success to

paralyze the enemy. However, none of this is possible, if friendly forces fail to sequence operations to overcome the effects of friction. For example, sequencing can overcome friction by fixing enemy forces to allow success elsewhere or by seizing rail hubs to improve the efficiency of sustainment activities. By considering the factors that contribute to tempo, the commander synchronizes the sequence of operations to quickly achieve the campaign objective.

Agility

"[Agility is] the ability of friendly forces to act faster than the enemy."³⁴ To do this, planners may sequence an operation to inhibit the enemy's ability to act while sequencing other operations to enhance the speed of friendly forces. The first operation facilitates the second--their purposes are linked. In addition to the physical aspect of agility, planners sequence operations to facilitate the mental aspects of agility by providing the greatest number of options possible throughout the campaign.³⁵ These options allow the commander to rapidly adjust the sequence of operations to exploit unanticipated success or avoid the effects of friction. This means that planners must correlate ends, ways, and means to achieve agility.

The purpose of the first operation described above, is to overcome friction--enemy resistance--to attain greater agility. In this respect, the same factors that influence tempo, influence agility. For example, operational planners should sequence operations based on the mobility of their forces. By

seizing terrain that facilitates mobility, planners enhance their forces' ability to move quickly on the battlefield, thus creating a more agile force.

Initiative

"Applied to the force as a whole, initiative requires a constant effort to force the enemy to conform to our operational purpose and tempo while retaining our own freedom of action."³⁶ Thus, planners should sequence operations in a way that forces the enemy to concede friendly campaign objectives. This entails destroying the enemy's center of gravity through the combination of selected objective points. In other words, to gain and maintain the initiative, planners must consider correlation of ends, ways, and means when sequencing operations.

Tempo is also an important consideration for gaining initiative. "In the attack, initiative implies never allowing the enemy to recover from the initial shock of the attack."³⁷ This may entail stunning the enemy by exploiting the effects of surprise and the speed of friendly operations, quickly following up tactical successes, and exploiting mobility advantages--while avoiding the effects of friction on friendly forces and aggravating the effects of friction on the enemy.

The effects of friction pose a significant threat to maintaining initiative and, if not accounted for, can result in the total loss of initiative and subsequent culmination. To prevent this, planners may have to sequence pauses in the campaign. In this

event, friendly forces should either deceive the enemy or conduct economy of force operations to keep the enemy from seizing the initiative by taking advantage of the lull.

Depth

"Depth is the extension of operations in terms of time, space, and resources."³³ Planners sequence operations to achieve depth by, for example, blocking enemy counterattack forces while friendly forces exploit into the depths of the theater of operations, by securing terrain that allows combat service support assets to move forward and continue to support the continuation of the attack, and by forcing the enemy to react to operations in his rear area while trying to prevent success to his front. All of these examples require the consideration of correlation of ends, ways, and means and tempo.

Correlation of ends, ways, and means ensures that planners identify decisive points in depth that will help unbalance the enemy's center of gravity. By considering tempo, planners can sequence operations to exploit tactical successes into the enemy's depth faster than the enemy can react.

In summary, campaigns display the characteristics of synchronization, agility, initiative, and depth when planners consider the correlation of ends, ways, and means and tempo. Through an understanding of the relationships between these two groups, planners can better design successful campaigns. Therefore, I will use these relationships as the basis for my analysis of two historical examples and my analysis of the current doctrine for campaign planning.

III. Historical Perspective

Since theory attempts to explain the observations of history,³⁹ it is important for us to see how practitioners have applied or misapplied the considerations for sequencing operations. This examination of history also gives us a better appreciation for the applicability of synchronization, agility, initiative, and depth as criteria for determining the adequacy of our own doctrine.

BARBAROSSA

Having just arrived on the channel coasts of France in the summer of 1940, Adolph Hitler turned his attention to the conquest of the only remaining continental power that could contest his domination of Europe--the Soviet Union. The political goals of the campaign were to eliminate a continental ally for Great Britain, give Germany access to Soviet raw materials, and seize terrain that would prevent attacks on Germany from any Soviet forces that might survive the invasion. In particular, Hitler was concerned about the Soviet Union's ability to reach Germany with bombers.⁴⁰

From the beginning, planning for the campaign was plagued by disagreements among the German leadership. The primary disagreement concerned the military conditions necessary to achieve the political goals of the invasion. General Franz Halder, Chief of the German General Staff (OKH), felt that the keys to achieving victory were the destruction of the Soviet Army and the seizure of Moscow.⁴¹ Hitler and his Armed Forces High Command (OKW) agreed with destroying the Soviet military, but placed less emphasis on seizing

Moscow. Instead, their emphasis was on the seizure of the ports along the Baltic coast, the grain producing areas of the Ukraine, and the oil fields of the Caucasus.⁴²

In an attempt to garner evidence to support their positions, the OKH and OKW conducted independent studies of possible offensive campaign plans. The Army study was heavily influenced by General Halder and, despite some findings indicating otherwise, recommended that Moscow should be the main objective of the campaign.⁴³ OKW's study, on the other hand, agreed with Hitler's assessment and recommended that the primary objective should be Leningrad, with a secondary objective to gain control of the Ukraine.⁴⁴

The disagreement over the campaign's primary objective also affected the identification of a Soviet center of gravity. Of the many studies conducted, planners identified what we might call centers of gravity in both the north and center. While the Germans eventually adopted Hitler's concept, which appeared to identify the center of gravity in the north, Halder continued to believe that the Soviets' strength would be the forces in the center, west of Moscow.⁴⁵

Other considerations for sequencing the operations in BARBAROSSA resulted from a series of wargames conducted by General von Paulus, Deputy Chief of the General Staff. The primary assumption for the wargames was that the Soviets' main effort would be in front of Moscow because of the capital's importance to

Soviet morale and economy. The Germans assumed that the bulk of Soviet forces would be west of the Dnepr River and along the Polish frontier.⁴⁶ The Germans also believed that the Soviets had only 50-75 divisions of any quality and that all German units were qualitatively better than the Soviet units. These assumptions grossly underestimated the Soviet situation.⁴⁷

Even while underestimating the Soviet Army's capabilities, these wargames concluded that sustainment beyond a Smolensk-Dnepr River-Leningrad line would be tenuous and that operations should only be conducted beyond this line as the sustainment situation allowed. A continuation of the attack would necessitate reconstruction of the Soviet transportation net and establishment of forward bases.⁴⁸

These wargames also pointed out problems concerning the tempo of operations. The German Army was primarily an infantry army, but was also dependent on the armored formations to provide the paralyzing effect now termed Blitzkrieg. The differences in the tempo of these two types of forces had caused problems before in both Poland and France, when the armored forces' speed of movement caused the infantry to fall behind. This meant that the armored forces were exposed to attack from the flanks and rear. Because this tactic appeared to be too great a risk for the Army to take, the final campaign plan tied the armored advances to the speed of the infantry formations.⁴⁹

General von Paulus's conclusion was that the Germans would have to defeat the Soviet Army west of the Dnepr River because the German Army could not support operations further to the east.⁵⁰ He also concluded that if the German Army attempted to seize Moscow, it would have to assault the city with its committed forces, because by the time the Germans could reach Moscow German reserves would have already been committed. Von Paulus considered the forces allocated for the campaign to be "barely sufficient" to achieve their objectives.⁵¹

The final plan appeared to adopt Hitler's concept. Order Number 21, BARBAROSSA, outlined what I interpret to be a series of operations divided into three phases.⁵² The furthest objectives were along the Volga River in the south to the port of Archangel in the north. (See Map 1 in Appendix A.)

The first phase consisted of four simultaneous operations. Army Group North would orient on Leningrad to fix the northern Soviet forces' attention to the west. Army Group Center, the main effort, would encircle and destroy Soviet forces near Bialystok,⁵³ and then continue to seize crossings over the Dnepr River in the vicinity of Smolensk. Army Group South would destroy Soviet forces south of the Pripet Marshes to seize Kiev and protect the southern flank of the main effort.⁵⁴ During this phase, the German Air Force would conduct a fourth operation to destroy the Soviet Air Force and gain command of the air. Air assets would simultaneously support the ground offensive.⁵⁵

In the second phase of the campaign, Army Group Center was to turn north to envelop the Soviet forces in the Baltics and seize Leningrad. Army Group North was to continue to fix the enemy's attention to the west in support of Army Group Center's envelopment. Meanwhile, Army Group South was to continue its attacks to destroy Soviet forces in the direction of Kiev.⁵⁵

In this phase, the Air Force was to fully support the ground forces and interdict Soviet lines of communication.⁵⁷ Upon the seizure of Leningrad, the Germans anticipated a pause of several weeks to allow the German forces to refit and regroup before starting phase three.

The final phase appears to have been two simultaneous operations to seize Moscow from the north and seize the Donitz Basin in the south. BARBAROSSA stated that the Germans would attempt to seize Leningrad and Moscow simultaneously only if the Soviet defenses in the north disintegrated quickly.⁵⁸ The Germans expected to complete the entire campaign before winter.⁵⁹

Historically, we know that BARBAROSSA failed to achieve its objectives. Soviet determined resistance and harsh winter weather halted the Germans on the outskirts of both Leningrad and Moscow. Nevertheless, how much of this failure resulted from the considerations the Germans used to sequence their operations for BARBAROSSA? By applying the criteria of synchronization, depth, agility, and initiative, we can determine the primary causes for failure.

A synchronized plan never came to fruition because of the failure of the German planners to correlate ends, ways, and means. Unity of purpose, a prerequisite for synchronization, never existed because the Germans could not agree on whether Leningrad or Moscow was the primary military objective of the campaign.⁶⁰ Largely because they could not agree on the objective, they also could not agree on the Soviet operational center of gravity. As I will show below, these disagreements ultimately contributed to a campaign plan that lacked depth.

Since German leaders could not agree on the objectives of the campaign, they placed too much faith in the superiority of German units and assumed they could accomplish everything simultaneously. Even though BARBAROSSA stated that the Germans would seize Leningrad before attempting Moscow, Halder fully intended to simultaneously seize Moscow. As Von Paulus' wargames pointed out, the Germans could not sustain operations that deep into the Soviet Union. That situation was further aggravated by attempting to attack everywhere at once.

Von Paulus' conclusions also identified the need to revamp the transportation systems in Russia and establish forward bases before continuing the attack to the east of Smolensk. This was the only way that the Germans could gain the depth of resources for a continuation of the attack.⁶¹ Again, the Germans' overly ambitious sequence of operations did not allow this pause in the campaign. As it turned out, the

friction of enemy resistance, lack of resupply, and harsh weather destroyed German tempo.⁵²

The inability to maintain a rapid tempo also affected agility. The hallmark of German operations was the speed of its armored forces. However, because BARBAROSSA attempted simultaneous operations over the entire theater, each Army Group had to stop its forward momentum to destroy encircled enemy forces before continuing its attack. Had the campaign plan concentrated more forces in depth, the lead units may have been able to continue the attack while leaving the enemy's destruction to follow-on forces.⁵³

Ultimately, the lack of agility resulted in the loss of initiative. As friction slowed the German forces to a stop, the Soviets gained enough time to reconstitute reserves and counterattack. OKW did attempt to use an independent air operation to keep the Soviets from taking advantage of the German pause to seize the initiative, but the Air Force also suffered from the lack of replacements and the effects of the weather.⁵⁴

In summary, BARBAROSSA failed to achieve synchronization, depth, agility, and initiative because the planners failed to properly consider the correlation of ends, ways, and means and the factors of tempo.

CHROMITE

On the 29th of June, 1950, General Douglas MacArthur stood on a hill overlooking the Han River in South Korea and watched the broken remnants of the South Korean Army fleeing south from Seoul. Seeing this, he knew that his forces would soon be reduced to holding onto the southern tip of the peninsula, and that it would take an offensive campaign to reclaim South Korea. He later claimed that he conceived OPERATION CHROMITE on that hill.⁶⁵

MacArthur's concept was to conduct the campaign in three phases. (See Map 2 in Appendix A.) First, he would defend the Pusan perimeter while simultaneously building up combat forces and supplies. Air operations would simultaneously gain command of the air and support the ground forces' defense of the perimeter.⁶⁶ In phase two, he would conduct an amphibious assault into Inchon in order to seize Seoul, turn the North Korean Army, and interdict its lines of communication. The day after the landing, Eighth Army would break out of the Pusan perimeter, destroy the enemy army, and link up with the forces at Seoul.⁶⁷ In this phase, the Air Forces would interdict the movement of enemy forces toward Inchon or away from Eighth Army. Phase three would follow with an exploitation to the 38th parallel and pursuit of the communists' remnants.⁶⁸

MacArthur's plan focused on destruction of the North Korean Army as the means by which South Korea would be liberated.⁶⁹ Not desiring to attack the enemy's strength directly, he determined four key points on which to concentrate: Inchon, because of its

access to Seoul; Seoul, because of its control over the North Korean People's Army's (NKPA) lines of communication; Pusan, because it controlled Eighth Army's lines of communication (LOCs) into Korea; and the communist forces facing Pusan, because the NKPA was the enemy's operational center of gravity.⁷⁰ These key points became objective points.

Despite this rationale, General J. Lawton Collins, Army Chief of Staff, opposed the plan. General Collins felt that there were insufficient forces to both land at Inchon and break out of Pusan. He felt that the poor state of training and the high numbers of South Koreans serving in U. S. Army units aggravated the lack of forces. Finally, he was afraid that the forces at Inchon would become trapped and destroyed before Eighth Army could link up with them.⁷¹

Collins' most critical concern was the fear that the plan may not result in the destruction of the enemy army at all. Since the NKPA was primarily composed of infantry, Collins feared that they might retreat into the mountains and live to fight another day.⁷² Collins offered two alternative plans.

The first plan provided for a continued build-up in the Pusan perimeter, followed by a conventional attack out of the perimeter to achieve a series of shallow penetrations, thereby destroying the enemy piecemeal. The second plan was similar, but included an amphibious landing vicinity Kunsan. The Kunsan landing oriented on a much shallower envelopment than Inchon and a quick link-up.⁷³

MacArthur dismissed the first option as too direct and costly, and the second option as no option at all. MacArthur felt a landing at Kunsan would not affect the enemy's lines of communications nor provide an advantage over the enemy's forces.⁷⁴ Thus, MacArthur obviously did not consider Kunsan to be a decisive point.

In his final defense of the plan to Collins, MacArthur focused on surprise as the key to victory. He said the plan would work because the odds against it were so great. The enemy would never expect it; he compared the plan to British General Wolfe's audacious scaling of the cliffs at Quebec to surprise the French during the French and Indian War.⁷⁵

As MacArthur predicted, CHROMITE was a success. Inchon caught the North Koreans by surprise, forced the NKPA to attempt to withdraw, and allowed Eighth Army to break out of the Pusan perimeter and restore South Korea's government and territory. How much of this success resulted from the considerations the Americans used to sequence their operations? Again, by applying the criteria of synchronization, agility, initiative, and depth, we can determine which sequencing considerations made significant contributions to the success of the plan.

It appears that MacArthur initially understood the national strategic goal to restore South Korea and its government, correctly identified the North Korean forces in the vicinity of Pusan as the operational center of gravity, and selected objective points that

were tied to both the defeat of the enemy center of gravity and the protection of his own force. From this, it appears that MacArthur and his planners understood the importance of correlating ends, ways, and means to achieve synchronization of the campaign plan.

Tempo also appears to have been a significant consideration for achieving synchronization in the campaign plan. MacArthur sequenced his operations to keep the enemy's attention directed at the defenders around Pusan. This served the purpose of eliminating enemy resistance--friction--to the initial Inchon landings. Likewise, Inchon's threat to the enemy's LOCs caused the enemy to withdraw, enhancing the Eighth Army's tactical success in breaking out of Pusan and pursuing the enemy.

This sequence of operations also achieved agility. The ground defensive operation in the Pusan perimeter held the enemy's attention, and allowed the maritime operation to seize Inchon and Seoul before the enemy could react. The use of maritime forces in an amphibious assault provided speed of movement that could not be matched by the NKPA's largely infantry forces moving on land. Air operations added to agility by interdicting these enemy movements. The planners' consideration of the factors affecting tempo, such as friction (enemy resistance), mobility, and surprise allowed MacArthur's forces to achieve agility.

These same sequencing considerations allowed the Inchon operation to surprise the NKPA and allowed

MacArthur's forces to seize the initiative. As stated before, the defensive operations in the Pusan perimeter established the conditions that allowed the amphibious landing to take place with little resistance. By the same token, the surprise of the Inchon landing created the conditions that allowed Eighth Army to break out and destroy the NKPA. In both instances, the sequence of operations was coordinated to gain and maintain the initiative.

Finally, Inchon provided depth by placing forces deep in the enemy's rear and forcing the NKPA to have to fight in two directions at once. The purpose of this operation was to seize a position of advantage in the enemy's depth in relation to the enemy's center of gravity. The landing at Inchon also allowed Eighth Army to attack into the depths of the enemy forces north of Pusan by forcing them to withdraw and, ultimately, fall apart.

It is clear from BARBAROSSA and CHROMITE that a planner's correlation of ends, ways, and means and his consideration of the factors that determine tempo can make significant differences in whether or not a campaign is successful. In the next two sections I will analyze our own doctrine to determine how well it communicates sequencing considerations.

IV. Analysis of JCS (TEST) Pub. 3-0,
DOCTRINE FOR UNIFIED AND JOINT OPERATIONS

JCS Test Pub 3-0 is intended to provide guidelines and a conceptual framework for the preparation and execution of unified and joint operations, to include campaign planning.⁷⁶ When finalized, it will be a guide for the development of other joint publications.⁷⁷ Because of the publication's focus at the strategic and operational levels, we should expect it to include considerations for sequencing operations in a campaign in order to achieve synchronization, agility, initiative, and depth.⁷⁸

SYNCHRONIZATION

JCS Pub 3-0 discusses elements of the correlation of ends, ways, and means as synchronization considerations for sequencing operations. The publication clearly defines the relationship among tactical, operational, and strategic objectives--establishing the primacy of the strategic objective and emphasizing its role in achieving unity of purpose. The publication also recognizes the commander's requirement to sequence operations to achieve these objectives.⁷⁹ Despite this recognition, the publication does not discuss the linkage between objective and center of gravity.

The manual considers "[i]dentifying enemy operational centers of gravity to be attacked or destabilized" as an "important aspect of operational art in developing the theater campaign plan."⁸⁰ In addition, it specifies that protection of the friendly

center of gravity is a consideration for campaign planning. Unfortunately, however, the manual never discusses the utility of attacking the enemy's center of gravity in terms of achieving the campaign objectives.

JCS Pub 3-0 defines center of gravity as "[t]hat characteristic, capability, or locality from which a military force derives its freedom of action, physical strength, or will to fight."⁸¹ Since the publication supplies no further elaboration or examples, this definition might apply to anything that is important to the enemy and to several things at the same time. The lack of synchronization considerations is aggravated by the poor discussion of decisive points and combinations.

JCS Pub 3-0 does not define decisive point. However, it does list "[a]pply overwhelming force at decisive points" as a guideline for joint operations.⁸² It also indirectly references decisive/objective points by requiring planners to "[p]rovide an orderly schedule of unified decisions."⁸³ This may even be a vague reference to the concept of combinations, but the publication does not explain the meaning of the statement. It does not discuss the utility of decisive/objective points or combinations to campaign planning, nor does it discuss the role of these concepts in determining how to attack the enemy's center of gravity. In short, while it mentions many of the aspects of the relation of ends, ways, and means, it does not adequately define the concepts or explain

their interrelationships in sufficient detail to result in synchronization. This is a shortfall that other studies have also noted.

In an appendix, the U. S. Air Force outlines its concerns about the publication's content. The Air Force criticizes the publication for not containing the concepts necessary for conducting a commander's estimate. Specifically, it felt the publication should explain how to identify the enemy center of gravity; how to combine battles, engagements, and operations to achieve strategic objectives; and how to translate higher level goals into military objectives.²⁴ These criticisms are directly related to considerations for achieving synchronization.

Tempo is another term that JCS Pub 3-0 mentions but does not define or explain. Tempo is mentioned in relation to depth and initiative, but not mentioned relative to agility or synchronization.²⁵ As I pointed out in the theory section, the campaign plan might not be synchronized if the planners do not consider the factors that determine tempo, and the way in which those factors influence campaign planning.

AGILITY

The only sequencing consideration directed at enhancing agility concerns the need for flexibility in the campaign plan. "[The CINC must plan] for operational series that will follow the initial planned operation to take advantage of friendly successes and to limit the adverse effect of enemy successes."²⁶ While this is a valid requirement, the publication does

not provide any guidance for how this is done. If there was a discussion of the correlation of ends, ways, and means, this statement would make more sense by providing another consideration for determining which combination would lend itself to changes more easily, thereby facilitating agility.

As stated above, the publication does not discuss the other major sequencing consideration that facilitates agility--tempo. The factors of mobility, surprise, and friction (such as enemy resistance, terrain, and weather) are major planning considerations for achieving agility, but are not discussed.

INITIATIVE

JCS Pub 3-0 also provides few sequencing considerations for achieving initiative. With respect to the correlation of ends, ways, and means, the publication states that concentrating force at decisive points takes the initiative away from the enemy.²⁷ However, without a definition of decisive point or a discussion of how decisive points fit into campaign planning, the reader can only infer how the commander sequences operations to seize the initiative.

The only discussion of initiative relative to the effects of tempo states that logistic constraints may affect the way commanders sequence operations to retain the initiative.²⁸ However, the publication does not talk about pauses, economy of force operations, deception, or any other implications that this statement suggests. Other than this reference to combat service support, the publication does not

discuss the effects of tempo on gaining or maintaining the initiative.

DEPTH

Considerations for achieving depth in the campaign are limited to a discussion of the effect that sustainment can have on sequencing. The publication states that "[t]he level of sustainment within or available to the theater may place limits on timing and sequencing operations and battles."²⁹ It seems to say that limitations on the quality of combat service support has an effect on the tempo of operations. While logistics is a valid consideration for sequencing operations, it is only one of the factors of tempo that affect depth. The other factors receive no attention.

In summary, JCS Pub 3-0 limits its considerations for achieving synchronization to a partial discussion of the correlation of ends, ways, and means. It does little more than outline the relationship between strategic, operational, and tactical objectives. The publication uses the terms center of gravity and decisive point, but the definitions are either too broad or missing entirely. Also, the concept of combinations is only vaguely alluded to. Finally, the relationships among these concepts are not explained, rendering them useless for synchronizing the campaign plan.

The publication provides even fewer considerations for achieving agility, initiative, and depth. Considerations for agility deal primarily with building flexibility into the plan, but stop short of

telling the planner how to accomplish it. Initiative receives similar short shrift, with only a comment about the need to seize the initiative by concentrating forces at decisive points. Finally, considerations for achieving depth are limited to the effect that logistics constraints can have on sequencing.

In addition, JCS Pub 3-0 ignores tempo as a sequencing consideration for achieving synchronization, agility, initiative, and depth. While the publication mentions the term in passing, it never defines the term or explains the factors that determine tempo.

V. Analysis of FM 100-5, OPERATIONS

FM 100-5 is the U. S. Army's capstone manual for warfighting doctrine. As such, it is the basis for all other Army doctrine for operational and tactical level planning and execution. It is also the source for the criteria used in this study; however, it appears that the manual pays insufficient attention to the sequencing considerations that help the planner achieve the tenets of AirLand Battle--synchronization, agility, initiative, and depth--in a campaign.⁹⁰

As I pointed out in the theory section, tempo is a primary sequencing consideration for achieving the effects of synchronization, agility, initiative, and depth. FM 100-5 fails to define tempo; however, the manual does occasionally mention the term and does explain some of the factors that determine tempo.

In that regard, the chapter on campaign planning discusses enemy capabilities, terrain, and friendly

capabilities, calling them "major factors which affect the campaign."⁹¹ Unfortunately, the manual does not say exactly how these factors affect the campaign or how these factors interact to create tempo. The manual specifically mentions friction in its discussion of agility, but provides no examples. This means that any follow-on descriptions of the debilitating effects of the enemy, terrain, weather, or light conditions may not immediately be identified with friction or considered as a factor in determining the tempo of operations. The problem is that there is no point at which the manual brings these factors together to show how they interrelate or the effect they have on tempo. Although these relationships are left to the reader to discover, I will point out the exceptions to this problem in the analysis that follows.

SYNCHRONIZATION

The manual discusses many of the sequencing considerations for achieving synchronization. It translates the focus of planning from the strategic military objective through to the tactical actions that achieve the objective.⁹² The manual also states that the strategic objectives are achieved through the defeat of the enemy's center of gravity, and orients all planning on the identification and defeat of the center of gravity.⁹³ The manual's explanation of center of gravity, however, is confusing.

FM 100-5 adopted Clausewitz's definition of center of gravity as the "hub of all power and movement, on which everything depends."⁹⁴ This is a

broad definition, but one that could be clarified by good examples. Unfortunately, the manual's examples do not enhance the definition. FM 100-5 states:

Even at [the operational] level, the center of gravity may well be a component of the field force--the mass of the enemy force, the boundary between two of its major combat formations, a vital command and control center, or perhaps its logistical base or lines of communication.⁹⁵

With the exception of the "mass of the enemy force," these all represent potential decisive points that are vulnerabilities, but not examples of a center of gravity. This may explain some of the problems that the manual has in relating center of gravity to decisive/objective points.

FM 100-5 uses the term decisive point throughout its discussion, but never defines it, relates it directly to the defeat of the enemy center of gravity, or discusses its utility for sequencing operations. The closest the manual comes to linking these two concepts is in its discussion of "[a] number of ways to defeat a large enemy force in a theater."⁹⁶ These ways include separating the enemy from his allies, defeating the enemy piecemeal, destroying his logistics, and occupying terrain that provides an advantage.⁹⁷ While these are clearly examples of decisive points, they are not identified as such, and they are not discussed in the context of destroying the enemy's center of gravity.

The failure to define and correlate concepts extends to the concept of combinations. FM 100-5 defines a campaign as a "series of joint actions

designed to achieve a strategic objective,"⁹⁹ but never defines "joint actions." In another section, the manual states that commanders must synchronize all operations--ground, sea, and air.⁹⁹ While these statements tell the planner that the purposes of different operations must support each other, they do not explain how operations are linked together into a coherent whole. As with the other elements of the correlation of ends, ways, and means, FM 100-5 fails to explain the relationship of decisive points to combinations or combinations to the campaign plan.

AGILITY

In its discussion of agility as a tenet, FM 100-5 stresses both the physical and mental aspects of agility. The manual also states that friction is the principle obstacle to agility. Friction is defined as ". . . the accumulation of chance errors, unexpected difficulties, and the confusion of battle" ¹⁰⁰ There are no examples of friction, nor any linkage between friction and culmination. In fact, because of the emphasis on chance in the manual's definition of friction and a lack of examples, the manual gives the impression that friction is not a planning consideration, but something planners must react to.

In its discussion of the mental aspect of agility, FM 100-5 describes how contingency plans provide flexibility in the campaign plan. The manual says that the best plan is one which facilitates flexibility and allows the commander to shift his operations if the situation requires it, either because

of enemy resistance or because of unexpected success.¹⁰¹ This discussion is helpful, since it leads the reader to understand the importance of choosing a sequence of operations that provides the commander with options throughout the campaign plan; these options, in turn, enhance agility.

INITIATIVE

FM 100-5 explains the purpose of major operations as a means of setting the conditions for subsequent operations.¹⁰² In effect, commanders must sequence operations in such a way that they gain the initiative; however, the manual provides no guidance for how commanders do this. As in the case with agility, if FM 100-5 had a clearer explanation of the correlation of ends, ways, and means, a planner might understand that the campaign gains and maintains the initiative by sequencing operations from one decisive point to the next until friendly forces destroy the enemy's center of gravity and, thereby, achieve the campaign objective.

The manual does try to relate initiative to tempo. "[I]nitiative requires a constant effort to force the enemy to conform to our operational purpose and tempo"¹⁰³ Still other sections talk about the roles that surprise and tactical success play in gaining the initiative.¹⁰⁴ Here again, however, since no definition or explanation of tempo exists, the significance of these statements may be lost on the reader.

DEPTH

In its discussion of depth as a tenet of AirLand Battle, the manual discusses the relationship of momentum to depth. It states that friendly forces achieve and maintain momentum when they have adequate resources that can be protected and moved forward, and when they are able to fix enemy forces to prevent their interference with friendly operations.¹⁰⁵ While not specifically stated as such, this discussion provides a good understanding of how tempo helps achieve depth.

FM 100-5 continues its discussion of how sustainment can affect depth in Chapter 4, "Sustainment Planning and Execution." In this case, the manual mentions the term tempo and focuses on the effect of friction on sustainment.¹⁰⁶ Specifically, the manual discusses the possibility that friendly forces may become overextended during the campaign, and offers the solution of staging logistics bases forward during the campaign to prevent this. The manual also describes the brake (friction) that inadequate sustainment can have on operations.

FM 100-5's discussion of depth of resources continues with its explanation of culmination. The manual defines culmination as the point at which continued offensive operations risk overextension and defeat. The goal is to achieve the campaign objective before culmination.¹⁰⁷ While the manual includes the results of combat as a contributor to culmination, its emphasis is on the effect that a lack of sustainment has on the campaign. The message is that planners must

consider culmination when planning the sequence of operations.

In summary, FM 100-5 suffers from many of the same problems as JCS Pub 3-0. Discussions of synchronization are hampered by poor or non-existent definitions for key terms. Specifically, the manual does not define the key concepts of decisive/objective points or tempo, while its definition of center of gravity is confusing. The manual's discussions concerning agility, initiative, and depth are also hurt by the lack of these definitions.

VI. Conclusions and Implications

Theory and history suggest that synchronization, agility, initiative, and depth characterize success in modern warfare, and that planners must sequence operations in a way that achieves these characteristics. Theory and history also demonstrate that these characteristics can be instilled in the campaign plan if operational planners consider the CORRELATION OF ENDS, WAYS, AND MEANS and TEMPO when designing the campaign.

These considerations, then, should form the basis for our joint and service doctrine for campaign planning. The purpose of this study was to determine whether these considerations are adequately defined and explained in joint and army doctrine. My conclusion is that they are not.

The principal problems are that the doctrine fails to define several key concepts or describe how these concepts interrelate. Center of gravity, decisive points, and tempo are concepts that the manuals refer to without adequate definitions. More importantly, the manuals refer to these concepts without explaining how they relate to each other or how they relate to sequencing operations. The manuals would better address sequencing considerations if they defined the concepts, discussed their interrelationships, and grouped all sequencing considerations into a chapter on campaign planning.

There are two primary implications to these conclusions. First, future campaign plans may be flawed because our current joint and army doctrine does

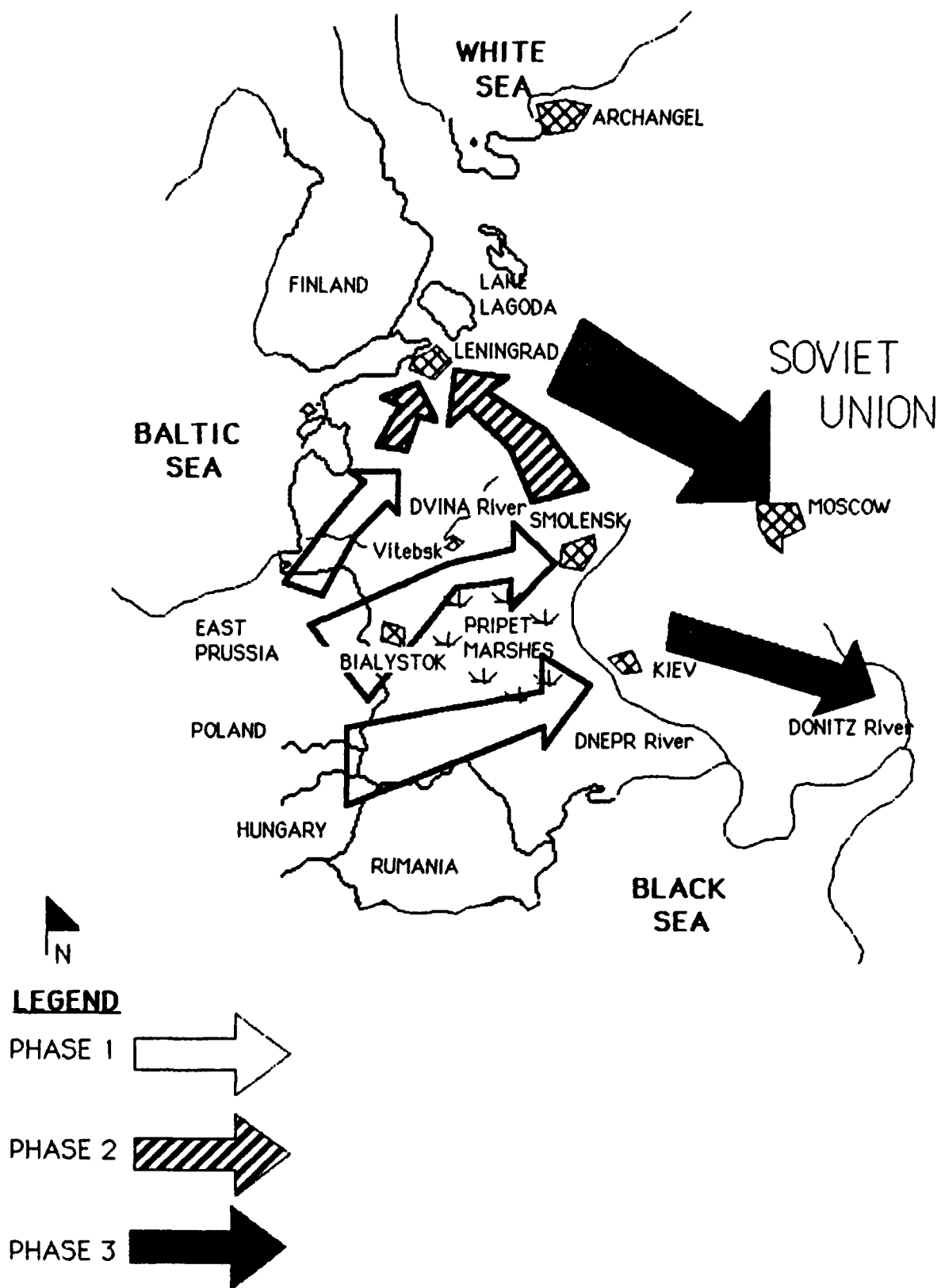
not contain adequate considerations for sequencing operations. Second, military education and training programs that depend on JCS Pub 3-0 or FM 100-5 for their foundations may not adequately prepare operational planners.

To correct these problems, both of these manuals should include at least the key concepts of correlation of ends, ways, and means and tempo. The manuals should define these terms, explain their interrelationships, and relate them to sequencing operations in a campaign in a manner similar to what I have presented in this paper. While this is not a comprehensive list of all the possible considerations for sequencing operations, it does represent the minimum considerations that are necessary to achieve synchronization, agility, initiative, and depth in a campaign plan.

If the role of doctrine is to provide a common approach to problem solving, and since the campaigns that the U. S. will execute are increasingly joint, any conflicting priority for revision should go to JCS Pub 3-0. Upon its revision, JCS Pub 3-0 should be the guide for all service doctrine, to include FM 100-5.

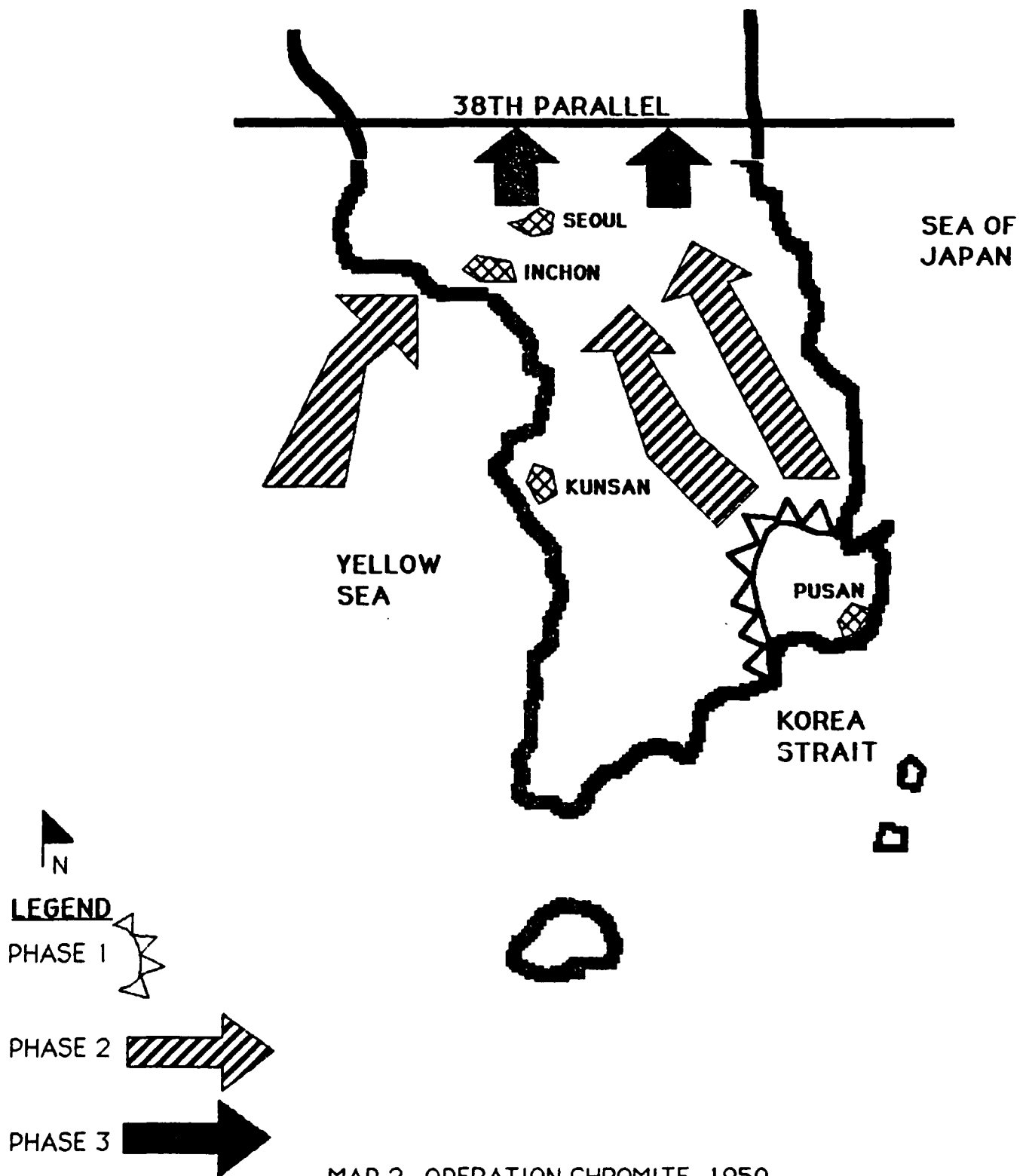
As the recent experience of DESERT STORM shows, operational planners may be called upon tomorrow to practice their trade. If joint and army doctrine are to play their rightful roles in preparing these planners to succeed, the doctrine must convey the proper considerations for sequencing operations in a campaign.

APPENDIX A (MAPS)



MAP 1. OPERATION BARBAROSSA, 1941

APPENDIX A (MAPS)



MAP 2. OPERATION CHROMITE, 1950

ENDNOTES

¹James J. Schneider, "Theoretical Paper No. 3: The Theory of Operational Art" (Ft. Leavenworth: Command and General Staff College, 1 March 1988), 9.

²U.S. Army, FM 100-5, Operations (Washington, D.C.: Headquarters, Department of the Army, 1986), 10.

³Carl von Clausewitz, On War, ed. and trans. by Michael Howard and Peter Paret, (Princeton: Princeton University Press, 1984), 233-234. In addition, see his discussion of physical destruction and its relationship to the enemy's will, 233-234; Schneider, 6-7.

⁴James J. Schneider, "The Loose Marble and the Origins of Operational Art," Parameters, March 1989, 87. Mr. Schneider is the professor of military theory at the School of Advanced Military Study (SAMS).

⁵For my paper, sequencing operations refers to the arrangement of operations within a campaign.

⁶U.S. Army, FM 100-5, Operations (Washington, D.C.: Headquarters, Department of the Army, 1982), 2-3.

⁷Peter Davies, ed., The American Heritage Dictionary of the English Language (New York: Dell Publishing Company, 1973), 154 and Harold R. Winton, "Memorandum for Record, Subject: Thoughts on Military Doctrine," School of Advanced Military Studies course issue, 30 October 1989.

⁸Richard Simpkin, Race to the Swift (London: Brassey's Defence Publishers, 1985), 136. "[Considerations] help in forming judgement without unduly restricting the exercise of it, and in building the common outlook among commanders at all levels. . ."

⁹FM 100-5, (1986), 14-18. The Army calls these characteristics--synchronization, agility, initiative, and depth-- the tenets of AirLand Battle doctrine. These tenets describe the nature of successful campaigns; therefore, the doctrinal considerations for sequencing should result in their achievement.

Synchronization requires the arrangement of actions in terms of time, space, and purpose. With respect to sequencing operations, this criterion ensures that the paramount consideration is achievement of the campaign objectives (purpose). Agility requires that operations are sequenced so that forces retain the ability to act and react faster than the enemy.

"[Initiative] requires a constant effort to force the enemy to conform to our operational purpose and tempo

while retaining our own freedom of action." (p. 15)" Finally, "[depth] is the extension of operations in terms of time, space, and resources." (p. 16) Depth requires commanders to sequence operations to achieve this extension. Depth also relates to the fundamental nature of the operational level of war--the expansion of the battlefield in terms of time, space, and mass (numbers of forces/effects of weapon systems).

¹⁰JCS (Test) Pub 3.0, Doctrine for Unified and Joint Operations (Washington D. C.: U. S. Government Printing Office, January 1990), iii; and FM 100-5, (1986), 1.

¹¹I grouped the planning considerations into these two categories in an attempt to simplify the discussion and analysis. Clausewitz's discussions of "Purpose and Means" (p. 90) and "Engagements" (P. 228), and Schneider's discussion of "Ends, Ways, Means, and Risk" (p. 16, "Theoretical Paper No. 3") suggested the heading of CORRELATION OF ENDS, WAYS, AND MEANS. Richard Simpkin suggested the heading of TEMPO in his discussion of tempo (p. 106).

¹²Clausewitz, 95.

¹³FM 100-5, (1986), 10.

¹⁴Schneider, "Theoretical Paper No. 3;" 27.

¹⁵Clausewitz, 485. This is only one of several definitions and examples that Clausewitz provides for center of gravity in his book. The other most quoted definition is, ". . . the hub of all power and movement." (595) Clausewitz also provides as examples, the enemy's capitol, alliances, individual leaders, and public opinion. (p. 595) I chose the definition of the mass of the enemy's forces on Clausewitz's advice:

Still, no matter what the central feature of the enemy's power may be--the point on which your efforts must converge--the defeat of his fighting force remains the best way to begin, and in every case will be a very significant feature of the campaign. (p. 595)

¹⁶Clausewitz, 485.

¹⁷Clausewitz, 485. This end note applies to the entire paragraph. The basis for this paragraph is Clausewitz's discussion on sphere of influence and its relationship to center of gravity.

¹⁰Sun Tzu, The Art of War, trans. Samuel Griffith (Oxford: Oxford University Press, 1963), 67 and 91-93; and Schneider, "Theoretical Paper No. 3," 27. This end note applies to this entire sentence.

¹²Schneider, "Theoretical Paper No. 3," 28.

²⁰Antoine Henri Jomini, Summary of the Art of War (condensed version), ed. J.D. Hittle in Roots of Strategy Book 2 (Harrisburg: Stackpole Books, 1987), 468; and Clausewitz, 197.

²¹Jomini, 466-468. Since a decisive point becomes an objective point when force is applied to seize or retain it, the difference between the two in planning is a question of whether the planner is still deliberating or has chosen to commit forces. For that reason, I will use the term decisive point unless I am talking about a point where force is committed.

²²Clausewitz, 96, 143, and 227.

²³Jomini, 460-461 and 473 and Schneider, "Theoretical Paper No. 3," 41.

²⁴FM 100-5, (1986), 14 and 29. In its introduction to the tenets of AirLand Battle, FM 100-5 states that the best results are those that "... most rapidly and economically accomplish the mission."

²⁵Simpkin, 106-107.

²⁶Simpkin, 106-108. Simpkin also includes the quality of intelligence and the effectiveness of command and control in his list of factors. While I agree that these factors influence the sequence of operations, I believe they are inherent in all activities. Efficient C² helps commanders make prompt, correct decisions; position combat support and service support properly; and exploit enemy vulnerabilities. Due to the persistent and sometimes unforeseen nature of friction, the commander cannot count on a set sequence of operations. Effective C² helps synchronize all the factors of tempo into a synergistic whole. Sequencing incorporates flexibility by following a course of action that allows the force to shift to alternate lines of operations and concentrate at alternate decisive points. While these alternatives may not provide an optimum solution, they still orient toward achieving the objective.

The quality and amount of intelligence also affects operational tempo. The organization must have intelligence that is accurate, trusted, timely, and sufficient to the commander's needs. These qualities

allow the commander to think ahead and anticipate events on the battlefield, thus facilitating effective command and control. Adequate intelligence provides a degree of certainty and allows the unit to move with a purpose, which enhances speed of movement.

²⁷Chris Donnelly (study team leader), The Sustainability of the Soviet Army in Battle (Sandhurst: Soviet Studies Research Center, September 1986), 103-108. The Soviet military studied the effects of superior combat power on rates of advance. Not surprisingly, they found that the rate of advance improved as force ratios improved. The Soviet concept of operational maneuver groups (OMG) is an attempt to speed up this process by creating operational success early in the campaign.

The Soviets also consider the effect that technological progress has had on tempo at both the tactical and operational levels. In their view, precision-guided munitions are a concern not only because of their destructive effect, but also because of the speed at which they can cause this destruction. Also Simpkin, 109

²⁸Donnelly, 38.

²⁹Donnelly, 30-31.

³⁰Simpkin, 109-112. Most of these factors are from Simpkin; however, I modified some of his factors. I combined mobility denial and fire and movement into enemy resistance since they are both products of either the enemy's efforts or friendly efforts to overcome the enemy. I also added the friction caused by the failure of friendly systems. Simpkin talks about this in terms of human error.

³¹Schneider, "Theoretical Paper No. 3," 25.

³²Clausewitz, 528.

³³FM 100-5, (1986), 17-18. This end note pertains to this entire paragraph.

³⁴FM 100-5, (1986), 16.

³⁵FM 100-5, (1986), 16. During the SAMS Battle Command Training Program (BCTP) session, General (ret.) Cavazos stated that plans should be developed that provide the friendly force with the most options. While he mentioned this in the context of a tactical discussion, the same thought logically applies to the operational level of war.

³⁶FM 100-5, (1986), 15.

³⁷FM 100-5, (1986), 15.

³⁸FM 100-5, (1986), 16.

³⁹Clausewitz, 144.

⁴⁰Matthew Cooper, The German Army 1933-1945: Its Political and Military Failure (Chelsea: Scarborough House Publishers, 1978), 261 and 322; and Matthew Cooper, The German Air Force 1933-1945: An Anatomy of Failure (New York: Janes Publishing Incorporated, 1981), 218.

⁴¹Bryan I. Fugate, Operation Barbarossa: The Strategy and Tactics on the Eastern Front, 1941 (Novato: Presidio, 1984), 63-67.

⁴²Fugate, 64 and 78.

⁴³Fugate, 67. LTC Marcks conducted the study for the general staff, and briefed the results of his study to General Halder prior to its formal presentation. Fugate provides evidence that Halder influenced Marcks to change his recommendation from a German main effort in the south to a main effort to Moscow.

⁴⁴Fugate; 69.

⁴⁵Fugate, 63, 68, and 81-82; also Cooper, The German Army, 264-265. Even after BARBAROSSA identified Leningrad as the initial objective, Halder hoped that the course of the campaign would vindicate his position, allow the Germans to defeat the Soviet center of gravity with Army Group (AG) Center, and allow them to adapt the plan and seize Moscow first. Cooper contends that even the AG Center objective betrays Halder's attitude. AG Center's objective was in the vicinity of Minsk and Smolensk, in the direction of Moscow. Cooper contends that if the actual intent had been to turn north, AG Center's initial objective would have been Vitebsk.

⁴⁶Fugate, 81.

⁴⁷Fugate, 38, 46, 50-54, 62 and 81. The Soviets began preparing for a German invasion in December 1940. General Georgii Zhukov, Chief of the Soviet General Staff, recognized the nature of a German attack and planned his defenses in depth. Specifically, three zones of defense stretched to a depth of 300 kilometers. Zhukov's concept was to exhaust the Germans and create the conditions for a

counteroffensive with the strategic reserve. Zhukov designed the forward defenses vicinity of Bailystok to deceive the Germans as to the Soviet's intent.

Also Fugate, 62, 64, 68, 73, and 81. The Germans took it for granted that their divisions were qualitatively better than the Soviet units. In fact, this was an assumption for the wargames. The Germans also underestimated the number of Soviet divisions.

⁴⁸Fugate, 72.

⁴⁹Cooper, The German Army, 273-274.

⁵⁰Fugate, 72.

⁵¹Fugate, 73 and 83. Von Paulus' studies and wargames caused him to favor a much more limited course of action for BARBAROSSA. He favored seizing key areas in the western Soviet Union, then negotiating for peace. His thoughts seem to indicate that he feared that Germany did not have the depth of resources to project forces to the objectives that Hitler and Halder envisioned.

⁵²Through my discussion of BARBAROSSA I will use the terms that I have developed in the theory section of this paper. This is a part of my analysis, and I do it to help the reader understand my interpretations of the German considerations. Also, some readers might prefer the term major operation to phases. The 1986 version of FM 100-5, states that a major operation ". . . comprises the coordinated actions of large forces in a single phase of a campaign . . ." (p. 10) It also says that while major operations are usually joint, they may also be single service operations. (p. 31)

⁵³Fugate, 63, 68, and 81-82; also Cooper, The German Army, 264-265.

⁵⁴Fugate, 84 and 85; also Cooper, The German Army, 264-265.

⁵⁵Cooper, The German Air Force, 220. Specifically, War Directive No. 21 stated, "It will be the duty of the Air Force to paralyze and eliminate the effectiveness of the Russian Air Force as far as possible. It will also support the main operations of the Army."

⁵⁶Fugate, 84 and 85.

⁵⁷Cooper, The German Air Force, 220.

⁵²Fugate, 85; Cooper, The German Army, 264-265.

⁵³Cooper, The German Air Force, 218.

⁵⁰Fugate, 88-89. German disagreements caused Halder to interpret intelligence the way that supported his desires to seize Moscow. Despite indications before the start of BARBAROSSA that the Soviets were building up operational reserves in the south, Halder insisted the Soviet main effort would be to defend the approaches to Moscow. He waived off the reported build-ups by citing statistics about the inferiority of Soviet units.

⁵¹Cooper, The German Army, 311-312. By the end of the first phase, 8 August 1941, the Germans had already lost 15% of their forces and 25% of their tanks. Industrial production could not keep up with such a loss rate. At this time, out of an average of 25 goods trains needed per day to support each army group, only AG North received what it needed. AG Center received only 8 trains, while AG South received only 10. These shortages were caused by a lack of locomotives and an inability to quickly change the Soviet track gauge to support German trains. As a result, truck and road usage significantly increased. Truck maintenance worsened and the weather made the few roads difficult to use. The German Air Force did lift some fuel to forward armored units; however, their capacity to lift fuel was low.

⁵²Cooper, The German Army, 331-334.

⁵³Fugate, 309; and Cooper, The German Army, 302 and 305. The Germans tried this within the Army Groups, but the armored units had to be held up while the slower infantry units destroyed the encircled enemy, and then tried to catch up.

⁵⁴Cooper, The German Air Force, 239-240.

⁵⁵D. Clayton James, The Years of MacArthur: Volume III, 1945-1964 (Boston: Houghton Mifflin Company, 1985), 426.

⁵⁶Clay Blair, The Forgotten War: America in Korea 1950-1953 (New York: Doubleday, 1987), 124.

⁵⁷James, 434.

⁵⁸Blair, 325.

⁵⁹Blair, 286.

70Blair, 470.

71Blair, 224. General Collins' specific concerns were: 1) By pulling forces from the Pusan perimeter, Collins feared that there was insufficient strength to break out or, worse yet, even continue to hold Pusan. He felt the problem of strength was exacerbated by the fatigue of the forces in the perimeter.

2) Many of the troops tasked with the Inchon landing and subsequent attack to Seoul were inexperienced. (The 7th Infantry Division included 8,600 Republic of Korea (ROK) soldiers who spoke little, if any, English.)

3) Collins also feared that enemy forces might react quickly to the Inchon landing and isolate the forces there, allowing their piecemeal destruction.

4) Enemy forces would resist the Pusan breakout, and prevent the linkup.

5) The Inchon landing site included every conceivable obstacle to an amphibious landing.

6) The axis for the linkup was easily interdicted.

7) Retreating ROK forces had destroyed most bridges and the attacking forces had insufficient bridging equipment.

8) Weather did not favor the timing of the landing-- it was typhoon season.

72Blair, 224.

73Blair, 226; James, 468.

74Blair, 231.

75Blair, 231.

76JCS (Test) Pub 3.0, 111.

77JCS (Test) Pub 3.0, 111. This manual equates to what the Army calls a capstone manual.

78LTC Herrly's, Joint Staff (J7-DOCTRINE), lecture to the Advanced Military Studies Program (AMSP) concerning the development of joint doctrine. Because representatives of the U. S. Army helped to write JCS (Test) Pub 3-0, the tenets of AirLand Battle appear to have influenced its content. Also, JCS (Test) Pub 3.0, 111.

79JCS (Test) Pub 3.0, III-5--III-8.

80JCS (Test) Pub 3.0, III-6.

81JCS (Test) Pub 3.0, 1x.

82JCS (Test) Pub 3.0, III-11.

22JCS (Test) Pub 3.0, III-8.

24JCS (Test) Pub 3.0, E-1 through E-2.

25JCS (Test) Pub 3.0, III-7. Paragraph 'f.' specifically discusses tempo in relation to sustainment and how it affects the sequence of operations. This means that depth of resources is a consideration for sequencing operations. Additionally, the publication states, "The CINC's logistic posture may force phasing and sequencing of operations to maintain the tempo of the campaign, ensure retention of the initiative, and keep the opposition off balance until all theater objectives are achieved."

26JCS (Test) Pub 3.0, III-7.

27JCS (Test) Pub 3.0, III-11 through III-12.

28JCS (Test) Pub 3.0, III-7.

29JCS (Test) Pub 3.0, III-7.

30FM 100-5, (1986). FM 100-5 provides two sets of imperatives--combat (pp. 22-26) and sustainment (pp. 62-63). As the names imply, these are prescriptive lists of considerations that are designed to achieve synchronization, agility, initiative, and depth. There are some good thoughts here; however, the imperatives tend to be too broad and do not specifically address how the planner should sequence operations.

31FM 100-5, (1986), 29 and 30.

32FM 100-5, (1986), 9-10.

33FM 100-5, (1986), 10, 29-30, 110, and 179-180.

34FM 100-5, (1986), 179.

35FM 100-5, (1986), 179.

36FM 100-5, (1986), 29.

37FM 100-5, (1986), 29.

38FM 100-5, (1986), 10.

39FM 100-5, (1986), 30.

100FM 100-5, (1986), 16.

¹⁰¹FM 100-5, (1986), 30-31. The manual calls these contingencies branches and sequels. Branches are "options for changing dispositions, orientation, or direction of movement and accepting or declining battle. . . ." Sequels are "actions after battle [that] establish general dispositions, objectives, and missions for subordinate units after the battle."

¹⁰²FM 100-5, (1986), 30.

¹⁰³FM 100-5, (1986), 15.

¹⁰⁴FM 100-5, (1986), 15 and 97.

¹⁰⁵FM 100-5, (1986), 16. The manual discusses other considerations for achieving depth that the commander can apply when sequencing operations. Among these are exploiting tactical success, properly staging support forward, and exploiting the effects of surprise. (pp. 17, 68, and 95)

¹⁰⁶FM 100-5, (1986), 59-60 and 68.

¹⁰⁷FM 100-5, (1986), 181.

BIBLIOGRAPHY

Books

- Blair, Clay. The Forgotten War: America in Korea 1950-1953. New York: Doubleday, 1987.
- Clausewitz, Carl von. On War. Edited and translated by Michael Howard and Peter Paret. Princeton: Princeton University Press, 1984.
- Cooper, Matthew. The German Air Force 1933-1945: An Anatomy of Failure. London: Janes Publishing Company Limited, 1981.
- Cooper, Matthew. The German Army 1933-1945: Its Political and Military Failure. Chelsea: Scarborough House Publishers, 1978.
- Creveld, Martin van. Supplying War: Logistics from Wallenstein to Patton. Cambridge: Cambridge University Press, 1972.
- Davies, Peter, ed. American Heritage Dictionary of the English Language. New York: American Heritage Publishing Co., Inc., 1969, Dell Publishing Co., Inc., 1975.
- Donnelly, Chris N. The Sustainability of the Soviet Army in Battle, Vol. I. Sandhurst: Soviet Studies Research Center, 1986.
- Fugate, Bryan I. OPERATION BARBAROSSA: Strategic and Tactics on the Eastern Front, 1941. Navato: Presidio Press, 1984.
- James, D. Clayton. The Years of MacArthur: Volume III, Triumph and Disaster 1945-1954. Boston: Houghton Mifflin Company, 1985.
- Jomini, Antoine Henri. The Art Of War. Edited and translated by J. D. Hittle, Roots of Modern Strategy Book 2. Harrisburg: Stackpole Books, 1987.
- Simpkin, Richard E. Race to the Swift: Thoughts on Twenty-First Century Warfare. London: Brassey's Defence Publishers, 1985.
- Sun Tzu. The Art of War. Translated by Samuel B. Griffin. Oxford: Oxford University Press, 1963.

Triandafillov, V. K. Kharakter operatsil sovremennykh armii [Nature of the Operations of Modern Armies]. Moscow, 1929. Translated by William A. Burhaus School of Advanced Military Studies reprint. Ft. Leavenworth, Kansas: Command and General Staff College, 1990.

Unpublished Papers

Cowan, David M. "The Utility of the Operational Pause in Sequencing Battles to Achieve Operational Advantage," School of Advanced Military Studies Monograph, Ft. Leavenworth, Kansas: Command and General Staff College, 1 May 1987.

Goehring, Russell J. "Sequencing Operations: The Critical Path of Operational Art," School of Advanced Military Studies Monograph, Ft. Leavenworth, Kansas: Command and General Staff College, 1 May 1987.

Johnson, Michael T. "The Conduct of Continuous Operations," School of Advanced Military Studies Monograph, Ft. Leavenworth, Kansas: Command and General Staff College, 30 April 1987.

Mendel, William W. and Floyd T. Banks, "Campaign Planning" (Final Report). Carlisle Barracks: U. S. Army War College, 4 January 1988.

Schneider, James J. "Theoretical Paper Number 3: The Theory of Operational Art," Student text for School of Advanced Military Studies, Ft. Leavenworth, Kansas: Command and General Staff College, 1 March 1988.

Tukhachevskiy, Mikhail. "New Problems in Warfare," School of Advanced Military Studies reprint of U.S. Army War College "Art of War Colloquium," 1 November 1983.

Government Publications

Department of Defense. JCS (Test) Publication 3-0, Doctrine for Unified and Joint Operations. Washington, D. C.: The Joint Chiefs of Staff, January 1990.

Department of the Army. Field Manual 100-5, Operations. Washington, D. C.: Headquarters, U. S. Army, 1982.

Department of the Army. Field Manual 100-5, Operations. Washington, D. C.: Headquarters, U. S. Army, 1986.

Department of the Army. Field Manual 100-6, Large Unit Operations (Coordinating Draft). Ft. Leavenworth, Command and General Staff College, 30 September 1987.

Department of the Navy. FMFM 1-1, Campaigning. Washington, D.C.: Headquarters, U.S.M.C., 25 January 1990.

Articles

D'Amura, Ronald M. "Campaigns: The Essence of Operational Art." Parameters: Journal of the Army War College, Vol. XVII, No. 2. (Summer 1987) 42-51.

Dempsey, Martin E. "Campaign Planning: A Simpler View," Military Review, Vol. LXIX, No. 7. Ft. Leavenworth: Command and General Staff College, (July 1989): 76-78.

Mendel, William W. and Floyd T. Banks. "Campaign Planning: Getting it Straight," Parameters: Journal of the Army War College, Vol. XVIII No. 3. Carlisle Barracks, Pennsylvania: U. S. Army War College, (September 1988): 43-53.

Rampy, Michael R. "Campaign Planning: Paradox or Paradigm?" Military Review, Vol. LXX, No. 8. Ft. Leavenworth: Command and General Staff College, (August 1990): 42-49.

Schneider, James J. "The Loose Marble and the Origins of Operational Art." Parameters: Journal of the Army War College, Vol. XIX, No. 1. Carlisle Barracks, Pennsylvania: U. S. Army War College, (March 1989): 85-99.

Williamson, William R. "Campaign Planning." Parameters: Journal of the Army War College, Vol. XIV, No. 4. Carlisle Barracks, Pennsylvania: U. S. Army War College, (Winter 1984): 20-25.